Wyle CRADA

As part of AFRL's research directed at resolving an apparent hypoxia problem involving F-22 pilots, researchers from the 711th Human Performance Wing (711 HPW) worked under contract with Wyle Laboratory to gather and analyze data to compare the efficiency of ear-mounted oxygen sensors versus finger-mounted oxygen sensors in a simulated F-22 environment. A separate CRADA between USAFSAM and Wyle enabled the cadre of USAFSAM aeromedical personnel supporting aerospace medicine missions at Brooks City-Base to provide technical support during the centrifuge-based testing and data collection phases of the F-22 research and test project being conducted by the Wyle for the 711 HPW.

This was part of a multi-pronged effort that included evaluation of gases for toxins, oxygen flow evaluation through the ship/man systems, evaluation of oxygen generator systems for performance, and the development of a helmet-mounted pulse oximeter to measure the pilots' blood oxygen levels in flight. This multi-prong effort directly contributed to restoring the F-22 to full operational status. F-22 pilots had been experiencing hypoxia-like incidents since June 2008, with 18 documented incidents prior to a fleet stand-down in May 2011.

Researcher prepares test subjects for the high-g environment of the research centrifuge operated by Wyle Laboratories.